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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,092	07/18/2003	Joseph W. Roos	EI-7592	2887
34769	7590	10/06/2005	EXAMINER	
DENNIS H. RAINEAR CHIEF PATENT COUNSEL, ETHYL CORPORATION 330 SOUTH FOURTH STREET RICHMOND, VA 23219			MARCANTONI, PAUL D	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,092

Applicant(s)

ROOS ET AL.

Examiner

Paul Marcantoni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

The applicants' 7/6/05 amendment and response has been considered but is not persuasive. The applicants' amendment adding new claim 21 necessitated the rejection inclusive of claim 21 below:

Obviousness Type Double Patenting:

Claims 1,3-5, and 7-21 are provisionally rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-21 of copending application no. 10/623,686 (US Pat Pub 2005/0016057). This is a provisional obviousness type double patenting rejection.

35 USC 103:

Claims 1,3-5, and 7-21 are rejected under 35 USC 103(a) as obvious over Kurkin '820 or '503, Kerley '992, or Rolfe '916.

Note: All references no longer listed in the rejection above were withdrawn.

Response:

ODP

The terminal disclaimer has not yet been received so the ODP rejection remains pending submission or scanning of it when it is presented into the electronic file wrapper prosecution history.

35 USC 103:

The applicants state that neither Kurkin reference teach or suggest a manganese *organometallic* compound effective to reduce the amount of carbon in fly ash. First, it is noted applicants narrowed their claim because originally they only claimed broadly a

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manganese containing compound which is inclusive of inorganic and organic manganese containing compounds. The applicants' specification even indicates the use of either the organic or inorganic version of the manganese compound to produce the same result or reduction in carbon in fly ash. No criticality or unexpected result is shown in their specification showing the organometallic improved over the inorganic manganese compound. The agent at work is the "manganese" and not any component organic or inorganic attached to it that functions to reduce the carbon content in fly ash.

Nevertheless, Kukin '820 may not explicitly teach an organometallic compound but he does broadly teach a "manganese containing substance". He does not limit himself to merely inorganic manganese compounds either. A manganese containing compound is inclusive of inorganic manganese compounds, manganese metal, or even organometallic manganese compounds. An organometallic manganese compound is a manganese containing substance and thus falls under the genus within the teaching of Kukin '820 (see col.4, lines 5-10 of Kukin '820).

Kukin '503 teaches adding manganese containing additives including organometallic manganese compounds (see Table 1 of Fuel ash test in cols.13-14) that can be used to "improve the combustion of the fuel by its property of burning off carbon at lower furnace temperatures" (see col.11, lines 12-15). It is the examiner's position that it would have been obvious to one of ordinary skill in the art that if a lower temperature of combustion can be used to remove carbon, more carbon can be removed from the fly ash in the combustion process. There is thus motivation and a suggestion from Kukin '503 to reduce carbon in fly ash.

The applicants argue that Kerly '992 (an Ethyl Corporation Patent) teaches only reducing smoke and sulfur dioxide when burning coal and includes a manganese organometallic compound. The applicants opine that Kerly does not teach or suggest fly ash reduction much less the use of manganese compound to reduce carbon in fly ash. In rebuttal, the examiner disagrees. The applicants omit the fact that the object of the invention is not only reducing smoke and sulfurous oxides but also soot. (col.1, line 40). Soot is unburned carbon and if applicants are "reducing" soot they are also reducing the amount of unburned carbon including the soot or unburned carbon attached to the fly ash combustion waste material during coal combustion. Also, Kerly '992 even teaches the following on the bottom of column 3 regarding the use of an organometallic manganese compound to reduce the amount of carbon in fly ash. Kerly '992 teaches "in some cases, it may be desirable to use a lesser amount of the cyclomatic metal compound than required to insure complete absence of carbon in the combustion products. In other words, using the manganese organometallic compound to reduce the carbon content in the combustion product (ie "the fly ash). If the organometallic manganese is insuring the absence of carbon, it is most certainly insuring that the carbon content is being reduced during combustion because of the presence of it during coal combustion.

The applicants argue that Rolfe '916 does not teach reducing carbon in fly ash from the combustion of coal. The examiner disagrees. Rolfe teaches that his novel manganese complex can be sprayed on solid fuels prior to combustion (see col.1, line 23). Coal is one example of a solid fuel that when burned results in a fly ash waste

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product from combustion. Further, Rolfe teaches that the use of manganous amine complexes of this invention not only reduce smoke emission, nitrogen oxides, and unburnt hydrocarbons but also carbon particles as well (col.2, lines 67-70). It is the examiner's position that Rolfe thus teaches spraying manganese additive on a solid fuel such as coal which results in a reduction of carbon particles. Carbon particles are understood by one of ordinary skill in the art to attach to the combustion waste product so it is thus reduced from the combustion product which, in the case of coal, is fly ash.

Finally, the examiner is not using hindsight analysis. He is using the teaching of the written disclosures of the prior art as stated above to teach that these reference meet the limitations of applicants' claimed invention. The finality of this office action is now proper. The applicants' amendment adding claim 1 necessitated the new ground of rejection over claim 21 using the same exact references as in the non-final action.

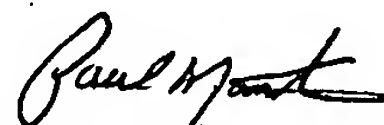
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni
Primary Examiner
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